



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,369	07/05/2006	Matthias Wendt	DE 040015	2578
24737 7590 12/17/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER ROMAN, LUIS ENRIQUE	
			ART UNIT 2836	PAPER NUMBER
			MAIL DATE 12/17/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/585,369

Applicant(s)

WENDT ET AL.

Examiner

Luis Roman

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 07/05/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 6 & 10** are rejected under 35 U.S.C. 102(b) as being anticipated by Darzy (US 6456051).

Regarding claims 1, 6 & 10 Darzy discloses an DC/DC converter and method/system of operation (a person of the ordinary skill will understand a method/system that is intrinsically described by the functioning of the apparatus) (Abstract & Fig. 4) comprising: a converting component for DC/DC converting a direct current supplied by a power generating unit (Fig. 4 element "Power Supply 6V to 60V") and for supplying a resulting converted direct current to a DC bus (Col. 4 lines 47-49 & Fig. 4 element  $V_o$ ); and a control component arranged to monitor a voltage at the outputs of said DC/DC converter (Fig. 4 elements 4 &  $V_{ctrl}$ ) and to cause said converting component to enter a short-circuit protection mode if said monitored voltage lies below a predetermined voltage threshold (Col. 2 lines 35-42).

Regarding claim 2 Darzy implicitly discloses wherein said control component is further arranged to cause said converting component to exit an entered short-circuit protection mode again, if said monitored voltage raises above said predetermined voltage threshold (Abstract, Col. 2 lines 35-42 & Fig. 4; note that the circuit is reversible and goes back and forth into the normal mode depending on the value of the voltage

Art Unit: 2836

output compared to a threshold, there is no latching element which would require some kind of resetting after entering a protection mode).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 3** is rejected under 35 U.S.C. §103(a) as being unpatentable over Darzy (US 6456051) in view of Balakrishnan (EP 1241778).

Regarding claim 3 Darzy discloses the converter of claim 1 but does not specifically disclose wherein said converting component is adapted to output a converted direct current repeatedly only for a short duration at a time in said short-circuit protection mode.

Balakrishnan teaches a power supply that turns the power on and off repeatedly under fault conditions (Abstract & Paragraph [0014]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Darzy device with the Balakrishnan teachings because it allows the power supply to recover from momentary fault conditions with reduced delay (Col. 3 lines 36-38).

**Claim 4** is rejected under 35 U.S.C. §103(a) as being unpatentable over Darzy (US 6456051) in view of Pelkonen (US 6671193).

Regarding claim 4 Darzy discloses the converter of claim 1 but does not specifically disclose wherein said converting component is adapted to output a current limited to a predetermined maximum value in said short-circuit protection mode.

Pelkonen teaches a power source which outputs a current limited to a predetermined maximum value in said short-circuit protection mode (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Darzy device with the Pelkonen teachings because it provides protection to the electronic switches from failing due to overcurrent/overheat.

**Claims 5 & 7** are rejected under 35 U.S.C. §103(a) as being unpatentable over Darzy (US 6456051) in view of Simons et al. (GB 2238672).

Regarding claims 5 & 7 Darzy discloses the converter of claims above but does not specifically disclose further comprising a short-circuiting component for temporarily short-circuiting the outputs of said DC/DC converter whenever said outputs are to be free of voltage.

Simons et al. teaches a device with a short-circuiting component for temporarily short-circuiting the outputs of said device whenever said outputs are to be free of voltage (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Darzy device with the Simons et al. teachings because it provides high reliability at the electrical connections.

**Claims 8-9** are rejected under 35 U.S.C. §103(a) as being unpatentable over Darzy (US 6456051) in view of Beckef-Irvin et al. (US 5861738).

Regarding claims 8-9 Darzy discloses the converter of claim 6 but does not specifically disclose wherein there is a central short-circuiting component to short-circuit the bus in case of failure of the system.

Beckef-Irvin et al. teaches a DC-DC converter with a single clamp (Fig. 3 element 14<Bus> and element 26 <control and clamp>; note that the clamped output voltage may be selected according to the needs by selecting the proper  $V_{ref1}$ ,  $V_{ref2}$ ,  $K1$  and  $K2$ ).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Darzy device with the Beckef-Irvin et al. teachings because it sinks the current of the bus when there is a failure (Col. 2 lines 16-19).

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luis E. Román whose telephone number is (571) 272-5527. The examiner can normally be reached on Mon – Fri from 7:15 AM to 3:45 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from Patent Application Information Retrieval (PAIR) system.

Status information for unpublished applications is available through private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

LR/120807

Luis E. Román  
Patent Examiner  
Art Unit 2836

 12/10/07  
MICHAEL SHERRY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800